

***No shielding policy: how to inform
patients and caregivers***

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CONFLICTS OF INTEREST

- None to declare
- EFRS Executive Board Member
- GAPS committee member



LEARNING OUTCOMES

1. To understand how to communicate the reasons why a no shielding policy has been implemented in radiology



PATIENT SHIELDING



CURRENT STATUS

CONSISTENCY
IS

A large, stylized blue key icon is positioned below the word 'IS'. The key is oriented horizontally, with the bit on the left and the bow on the right. The bow is a simple circle with a cross-shaped cutout in the center. The shaft of the key is a solid blue line.

CURRENT STATUS



1. UNDERSTAND THE REASONS...





Benefits

What are the Benefits?



Risks

What are the Risks?



Alternatives

What are the Alternatives?



Nothing

What if I do Nothing?

- **Obscure anatomy**
- **Obscure pathology**
- **Require repeat imaging**
- **Impact AEC operation**
- **Continue diverse use (infection control)**



Benefits

What are the Benefits?

- 30-40% organ dose reduction
- BUT of a small dose anyway



Risks

What are the Risks?



Alternatives

What are the Alternatives?

Optimise technique

- Field restriction
- PA v AP
- Distance
- Individualise dose to indication



Nothing

What if I do Nothing?

2. CONSIDER YOUR COMMUNICATION OPTIONS..

Types of Communication and Ways to Use Them



Verbal

- Use a strong, confident speaking voice.
- Use active listening.
- Avoid filler words.
- Avoid industry jargon when appropriate.



Nonverbal

- Notice how your emotions feel physically.
- Be intentional about your nonverbal communications.
- Mimic nonverbal communications you find effective.



Visual

- Ask others before including visuals.
- Consider your audience.
- Only use visuals if they add value.
- Make them clear and easy-to-understand.



Written

- Strive for simplicity.
- Don't rely on tone.
- Take time to review your written communications.
- Keep a file of writing you find effective or enjoyable.



Which single communication method would work best to inform patients & caregivers about a 'no shielding' policy

Poster in the radiology waiting area

Leaflet available on the check-in / registration desk

Social media messages / videos

Direct verbal communication

The guidance is written by a collaborative working party including representatives from the British Institute of Radiology, the Institute of Physics and Engineering in Medicine, Public Health England, the Royal College of Radiologists, the Society and College of Radiographers and the Society for Radiological Protection.



Patient Shielding Guidance published by
The British Institute of Radiology, March 2020

Download the guidance at
www.bir.org.uk/patientshielding

www.bir.org.uk

BIR registered charity no: 215869

Frequently Asked Questions

Q: Why are the staff wearing protective clothing?

A: If you see the staff wearing protective clothing please remember that they are working with radiation for your benefit and regular exposure for them could be harmful as they do this every day.

Q: I am pregnant. How will the X-ray/scan affect my unborn child?

A: Every effort will be made to avoid exposing an unborn child wherever possible. Alternative ways of investigating your symptoms will have been considered before deciding on the use of X-rays. Scientific evidence shows that the amount of radiation used in medical imaging represents a very low risk to an unborn baby. Shields will not effectively reduce the amount of radiation to your unborn baby and may cover up parts of your body that your doctor needs to be able to see. They can also be uncomfortable for you and your baby. If you think you may be pregnant, please speak to your radiographer.

Q: Does exposure to radiation cause cancer?

It has been reported that there is an increased, albeit very low, risk of developing cancer in people exposed to low radiation doses. This potential risk is small compared to the benefits of medical imaging. Great care is taken to ensure every radiological imaging procedure is justified and appropriate, with the benefit to the patient outweighing any risk.

Q: I have had lots of X-rays in my lifetime. This might add up to a large amount of radiation exposure over the years. Is this dangerous?

Each and every decision to perform an X-ray is carefully considered, taking into account the results of any previous imaging. The cumulative radiation dose from medical procedures is very small in many individuals and, in any case, must be compared with the benefits of having had the X-rays over a lifetime.

X-rays and shielding: Your guide to safety and success



www.bir.org.uk

When you have your X-ray, CT scan or any other procedure using imaging, you no longer need to wear a protective shield or apron to protect you against radiation.

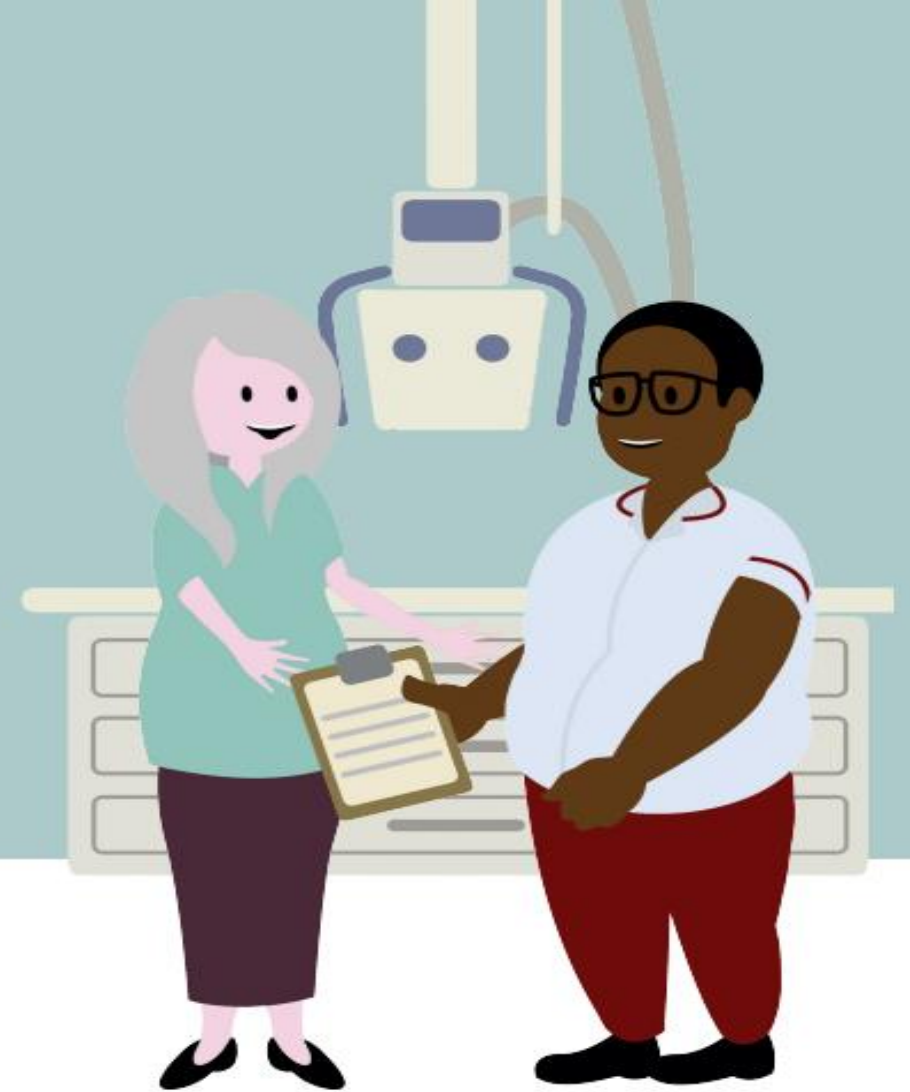
Scientific evidence shows that:

Due to improvements in technology, modern X-ray and CT machines can now achieve a good image with a low level of radiation. Staff will always make sure the benefit to you from having the X-ray or CT scan is much greater than the risk.

Using shielding is not an efficient way of reducing your radiation dose and sometimes the shielding or apron can prevent staff getting a good image. This might mean you have to have a repeat X-ray, which would give you more radiation.

Knowledge about the sensitivity of different parts of the body to radiation has improved. So, for example, there is no longer a need to protect your reproductive organs using contact shielding.

There are now far more effective ways of doing this.



Staff in the X-ray or CT room are trained to:



Ensure you are only exposed to enough radiation to achieve a good image



Position your body so that radiation is minimised



Make best use of technology to keep your dose as low as possible

If you have any concerns, please talk to staff. They are here to help you.

SUPPORTED BY:

American Association of Physicists in Medicine (AAPM)

<https://www.aapm.org/>

American Board of Radiology (ABR)

<https://www.theabr.org/>

American College of Radiology (ACR)

<https://www.acr.org/>

American Society of Radiologic Technologists (ASRT)

<https://www.asrt.org/>

Image Gently®

<https://www.imagegently.org/>

Society for Pediatric Radiology (SPR)

<https://www.pedrad.org/>

ADDITIONAL RESOURCES:

The American Association of Physicists in Medicine:

Communicating Advances in Radiation Education for Shielding (CARES)

<https://www.aapm.org/CARES/>

British Institute of Radiology

<https://www.bir.org.uk/>



If you have any questions or concerns about your imaging exam, please talk to your radiologic technologist or doctor.

Information about NCRP Statement No. 13:
NCRP Recommendations for Ending Routine Gonadal Shielding During Pelvic and Abdominal Radiography

<https://ncrponline.org/publications/statements/>



WHERE'S THE LEAD APRON?

WHY REPRODUCTIVE ORGAN SHIELDING IS NO LONGER RECOMMENDED

You may notice that we no longer shield patients' reproductive organs during imaging exams.

Based on over 70 years of research, medical experts now know that the best way to keep patients safe during imaging exams is to not use shields. This is true at any age, including for those who plan to have children in the future. We know this is different from how things have been done for a long time. This pamphlet talks about why this change was made.

National Council on Radiation Protection and Measurements

<https://ncrponline.org/>

BACKGROUND

In the 1950s, medical experts had less knowledge about how the x-ray radiation used in medical imaging affected our bodies.

One concern was that the radiation might damage cells that could be passed along to future generations. Because of this concern, lead shields were often placed over patients' reproductive organs during medical imaging exams.

We now know that the best way to safely image you is to not use shields.



Pelvic x ray

The amount of radiation used in medical imaging has decreased over 95% since the 1950s. Better technology means that today's medical imaging equipment can make high quality images using only very small amounts of radiation.

Scientists found that the gonads are much less sensitive to radiation than previously thought. This is true for everyone, including children and adults who plan to have children in the future.

Shields can cover up parts of the body that your doctor needs to see. If this happens, then the exam may need to be repeated.

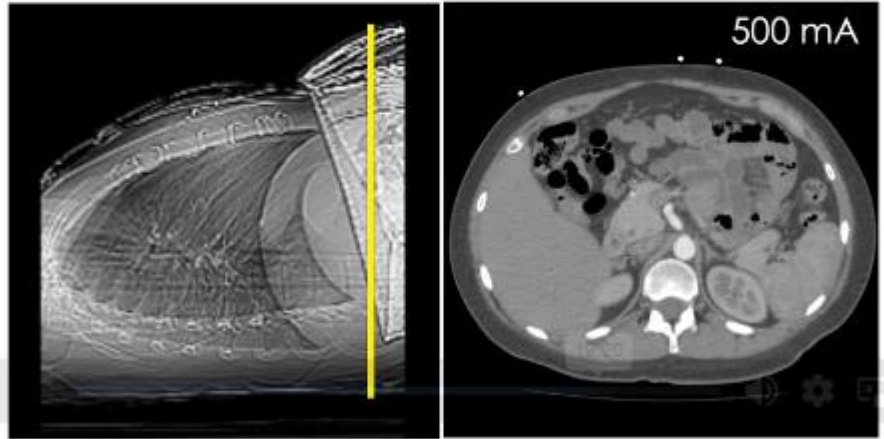
Shields can interfere with other dose-saving features. X-ray equipment includes technology that makes sure just the right amount of radiation is used for the exam. Sometimes a shield can interfere with this technology, which can actually increase the amount of radiation from the exam.

AEC - RADIOGRAPHY

| typical technique | AEC technique |
|-------------------|------------------|
| 77 kV 8 mAs | 85 kV 109 mAs |



AEC - CT



AAPM CARES

Communicating Advances in Radiation Education for Shielding (CARES) [Home](#) / [CARES](#)

CARES is an engaged community of stakeholders committed to Communicating Advances in Radiation Education for Shielding (CARES). In April of 2019, the American Association of Physicists in Medicine (AAPM) released a position statement outlining reasons for limiting the routine use of fetal and gonadal shielding in radiographic imaging. Recognizing that removing patient shielding from routine use is a substantial shift in existing clinical practice, AAPM formed a committee to bring stakeholders to discuss potential changes in the use of patient shielding. The Ad Hoc Committee includes members from over 14 professional organizations worldwide, representing medical and health physicists; radiologic technologists and organizations that oversee educational programs for radiologic technologists; radiologists; and state regulators.

- CARES Modules
- CARES Quizzes
- AAPM Press Release
- NCRP Statement No. 13
- Companion to NCRP Statement No. 13
- NCRP Patient Brochure
- CARES Committee
- Position Statement
- FAQ
- Facebook

3. CONSIDER LIMITATIONS OF EACH

- Visually impaired (1 in 4) ¹
- Literacy rates vary ²
- Patients often preoccupied with other issues

| Indicator | Sort | Austria | Germany | France | Italy | OECD average |
|--|---|---------|---------|--------|-------|--------------|
| LITERACY | | | | | | |
| Mean literacy score in the Survey of Adult Skills (PIAAC) | (2018) Download Indicator | 269 | 270 | 262 | 250 | 266 |
| Percentage of adults scoring low (at or below level 1) in literacy in the Survey of Adult Skills (PIAAC) | (2018) Download Indicator | 15.3 | 17.5 | 21.6 | 27.7 | 19.7 |



1 <https://data.unicef.org/topic/education/le>

2. <https://knowledge4policy.ec.europa.eu/>

3. OECD (2018) Survey of adult skills PIAAC

WHERE DO PATIENTS GET THEIR INFORMATION

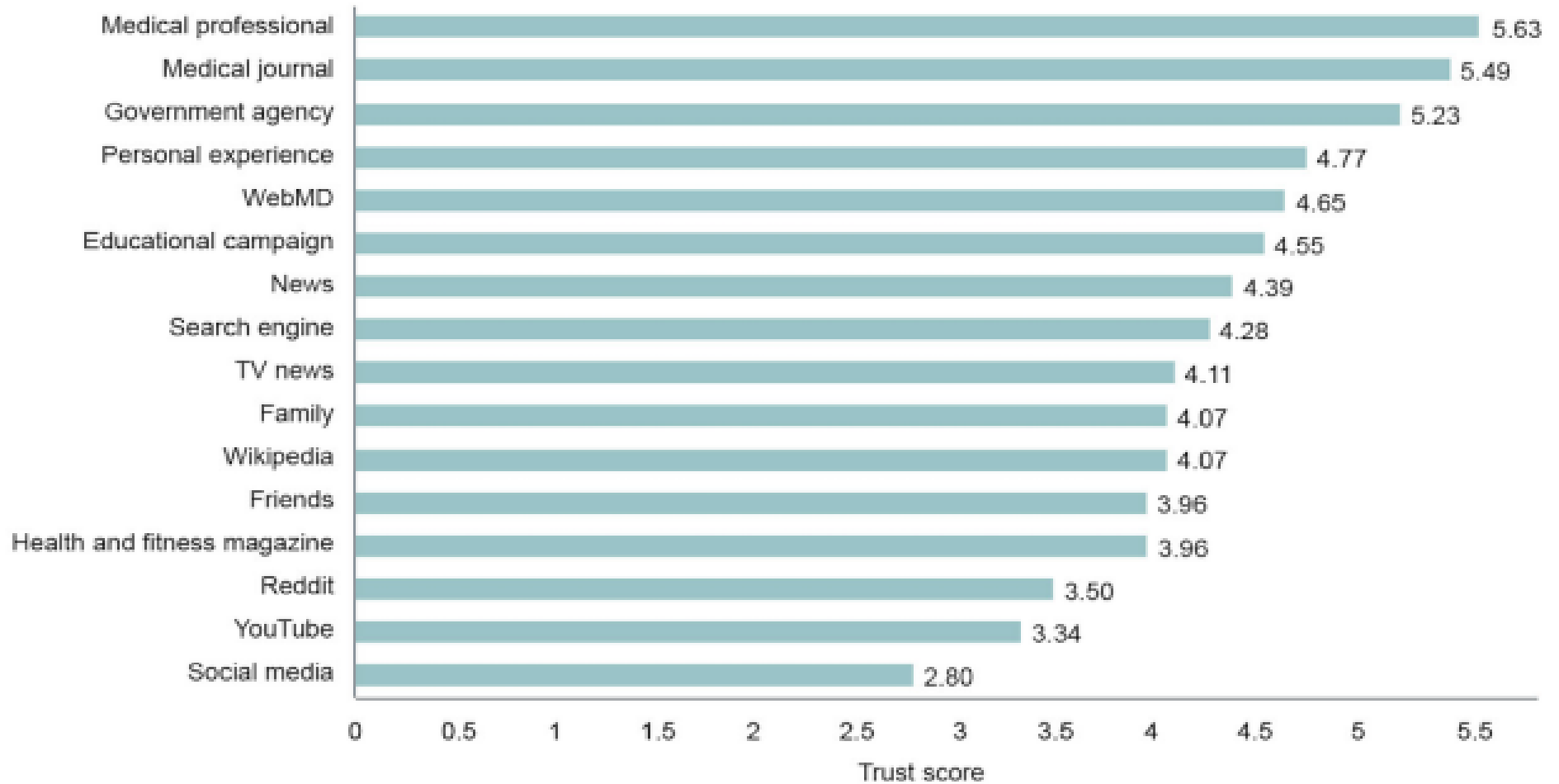
Table 3. List of information sources utilized by patients commonly mentioned in pertinent articles from the review of literature (percentages of articles overlap).

TABLE 3

| Information source | No. of articles | % of articles |
|-------------------------------|-----------------|---------------|
| Internet | 18 | 86 |
| Physician | 15 | 71 |
| Television | 14 | 67 |
| Family and friends | 13 | 62 |
| Magazine | 12 | 57 |
| Pharmacist | 10 | 48 |
| Radio | 10 | 48 |
| Newspapers | 10 | 48 |
| Leaflet | 9 | 43 |
| Popular books | 8 | 38 |
| Nurses | 5 | 24 |
| Email or support groups | 5 | 24 |
| Medical books | 5 | 24 |
| Other healthcare professional | 4 | 19 |
| Public library | 4 | 19 |
| Organization | 4 | 19 |
| Medical journals | 3 | 14 |
| Newsletters | 3 | 14 |

TRUSTWORTHY SOURCES

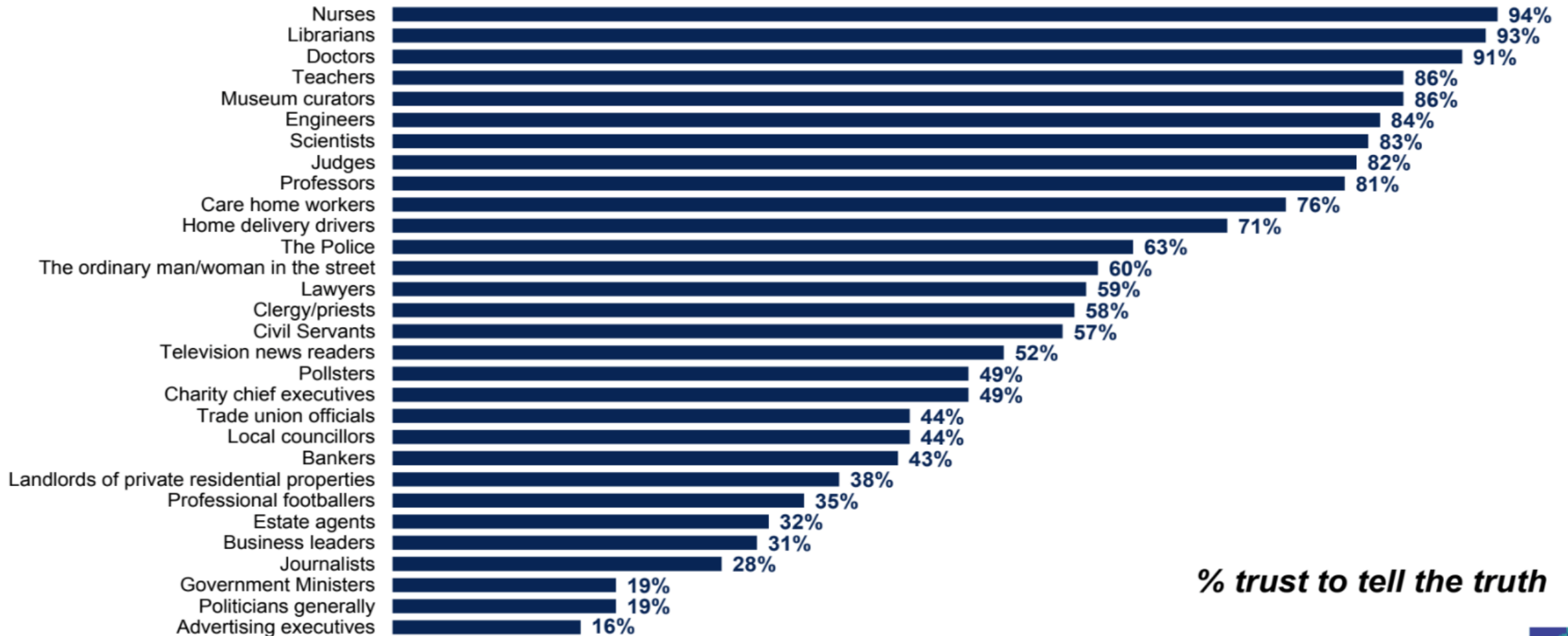
Figure 1. Average trust score by category for time point 1 (March 31, 2020).



WHO DO THE PUBLIC TRUST...?

Veracity Index 2021 – all professions

“Now I will read you a list of different types of people. For each would you tell me if you generally trust them to tell the truth, or not?”



% trust to tell the truth

Base: 1,007 and 1,009 British adults aged 18+, interviewed by telephone 29 Oct – 4 Nov and 5 – 10 November 2021

© Ipsos | Veracity Index 2021 | November 2021 | Version 1 | Public

<https://www.ipsos.com/en-uk/ipsos-mori-veracity-index-2020-trust-in-professions>

ADVICE...

- Understandable & no (medical) jargon ¹
- No more than **THREE** key messages ²

W.H.O. key points:

- Be prepared (previous imaging history)
- Anticipate questions and responses
- Give clear, simple messages
- Organise thoughts and ideas
- Have dialogue to develop simple & relevant points

COMMUNICATING RADIATION RISKS IN PAEDIATRIC IMAGING

Information to support healthcare discussions about benefit and risk



1. WHO, 2016. Chapter 3: Risk-Benefit Dialogue. https://www.who.int/ionizing_radiation/pub_meet/chapter3.pdf
2. Dauer et al. <https://www.ajronline.org/doi/10.2214/AJR.10.5956>

FOLLOW ON STEPS...



SUMMARY

- Communication requires multi-faceted approach
- Individual communication is key



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